AMENDMENTS TO THE CLAIMS

1. (Original) A method for the biological treatment of effluents contaminated with impurities of municipal or industrial origin, characterized in that it employs a single aeration tank (1) with high mass loading in which the raw or mechanically pretreated effluent is mixed, without prior settling, with a free microbial culture of the activated sludge type, growing in a lightly aerated medium, of the order of 0.1 to 0.2 Kg O_2/kg BOD5 removed, the applied organic loading being equal to or greater than at least 2 Kg COD/Kg SM/day, preferably equal to or greater than 4 Kg COD/Kg SM/day, the hydraulic residence time of the raw effluent in the single aeration tank being between 30 and 90 minutes, and preferably between 40 and 60 minutes, and in that, in said single aeration tank (1) a portion of the dissolved carbon pollution and nearly the entire colloidal and particulate fraction of the effluent are biosorbed by the activated sludge floc.

2. (Original) The method as claimed in claim 1, characterized in that the value of said mass loading is above 1.5 kg BOD5/Kg SM/day, with a solid matter concentration between 0.5 and 2.5 gSM/l, giving rise to applied volumetric loadings above 3 kg BOD5/m^3/day.

3. (Currently Amended) The method as claimed in claim 1, characterized in that it is controlled at the anaerobiosis limit, by regulating the dissolved oxygen content to values between 0.1 and 1 mg/l ~~1 g/l~~.

4. (Original) The method as claimed in claim 1, characterized in that the very high loading sludge has a suspended matter concentration of the order of 0.5 to 2.5 g/l, and preferably between 0.6 and 1.5 g/l.

5. (Previously presented) The method as claimed in claim 1, characterized in that a regulation system is provided, by adjustment of the recirculation rate of the mixed liquor in the single aeration tank, this regulation being carried out so as to maintain the solid matter (suspended matter + biomass) within a preset range, preferably between about 1.0 and 1.5 g/l, and it is

carried out by the continuous measurement of the turbidity of the activated sludge or of the mixed liquor, this measurement being combined with a slaving of the recirculation or extraction rate of said mixed liquor.

6. (Previously presented) The method as claimed in claim 1, characterized in that it comprises a regulation of the air input in the single tank (1), in order to maintain a low dissolved oxygen setpoint, of the order of 0.1 to 1 mg/l.

7. (Previously presented) An installation for putting into practice the method as claimed in claim 1, characterized in that it comprises:

a free culture reactor (1) in which the free culture grows in an aerated medium, in which a portion of the dissolved carbon pollution and nearly the entire colloidal and particulate fraction of the effluent are biosorbed by the activated sludge floc, said reactor, which constitutes said single aeration tank, comprising continuous or intermittent air input means (2), the mixing energy being supplied mechanically in this case,

means (3) for continuous measurement of the turbidity of the activated sludge or of the mixed liquor and means for measuring the dissolved oxygen concentration, of which the data are processed by a servo system for slaving, on the one hand, the mixed liquor recirculation or extraction rate to maintain a constant solid matter content in said reactor and, on the other hand, the air input to maintain a low residual dissolved oxygen content in said reactor,

an intermediate clarifier (4) which separates the sludge from the depolluted effluent, and

a sludge recirculation circuit (5) from the intermediate clarifier to the free culture reactor, the recirculation (or extraction) rate being slaved to the turbidity measurement in the reactor.

8. (Original) The installation as claimed in claim 7, characterized in that the reactor 1 operating with very high loading activated sludge takes the form of an integral mixing aeration tank.

9. (Previously presented) The installation as claimed in claim 7, characterized in that the sensor (3) is positioned directly in the biological reactor (1).

10. (Previously presented) The installation as claimed in claim 7, characterized in that the sensor (3) is positioned at the outlet of said reactor, on the water line supplying the associated clarifier (4).